EXHIBIT NO. 3

CONSUMERS ILLINOIS WATER COMPANY

DOCKET NO. _____

DIRECT TESTIMONY

OF

PAULINE M. AHERN, CRRA
VICE PRESIDENT
AUS CONSULTANTS - UTILITY SERVICES

CONCERNING

COMMON EQUITY COST RATE

MAY 2003

I. INTRODUCTION

Q. Please state your name, occupation and business address.

A. My name is Pauline M. Ahern and I am a Vice President of AUS Consultants - Utility Services. My business address is 155 Gaither Drive, P.O. Box 1050, Moorestown, New Jersey 08057.

Q. Please summarize your educational background and professional experience.

A. I am a graduate of Clark University, Worcester, MA, where I received a Bachelor of Arts degree with honors in Economics in 1973. In 1991, I received a Master of Business Administration with high honors from Rutgers University.

In June 1988, I joined AUS Consultants - Utility Services as a Financial Analyst and am now a Vice President. I am responsible for the preparation of all fair rate of return and capital structure exhibits for the principals of AUS Consultants - Utility Services, including myself. I have offered expert testimony on behalf of investor-owned utilities before fourteen state regulatory commissions. The details of these appearances, as well as details of my educational background, are shown in Appendix A supplementing this testimony.

I am also the Publisher of C. A. Turner Utility Reports, responsible for the production, publication, distribution and marketing of these reports. C. A. Turner Utility Reports provides financial data and related ratios covering approximately 150 public utility companies on a monthly, quarterly, and annual basis including electric, combination gas and electric, gas distribution, gas transmission, telephone, water and international utilities to about 1,000 subscribers, which include utilities, state utility commissions, federal agencies, individuals, brokerage firms, attorneys and public and collegiate libraries.

I also calculate and maintain the A.G.A. Index under contract with the American Gas Association (A.G.A.). The A.G.A. Index is a market capitalization weighted index of the common stocks of about 70 corporate members of the A.G.A.

I have co-authored an article with Frank J. Hanley, President, AUS Consultants - Utility Services entitled "Comparable Earnings: New Life for an Old Precept" which was published in the American Gas Association's Financial Quarterly Review, Summer 1994. I also assisted in the preparation of an article authored by Frank J. Hanley and A. Gerald Harris entitled "Does Diversification Increase the Cost of Equity Capital?" published in the July 15, 1991 issue of Public Utilities Fortnightly.

I am a member of the Society of Utility and Regulatory Financial Analysts, formerly the National Society of Rate of Return Analysts. In 1992, I was awarded the professional designation "Certified Rate of Return Analyst" (CRRA) by the National Society of Rate of Return Analysts. This designation is based upon education, experience and the successful completion of a comprehensive written examination.

I am an associate member of the National Association of Water Companies and a member of the Energy Association of Pennsylvania, formerly the Pennsylvania Gas Association.

Q. What is the purpose of your testimony?

A. The purpose is to provide testimony on behalf of Consumers Illinois Water Company (Consumers IL or the Company) as to the appropriate common equity cost rate which it should be afforded the opportunity to earn on the common equity financed portion of its jurisdictional rate base.

Q. What is your recommended common equity cost rate?

A. Although the Company is basing its filing upon a requested common equity cost rate of 10.75%, current capital market conditions indicate that a common equity cost rate of 12.50% is applicable to a 50.43% average common equity ratio estimated for the test year ending December 31, 2004. The capital structure and the embedded cost rates of long- and short-term debt as well as preferred stock are supported by Company Witness Jack Schreyer.

Q. Have you prepared an exhibit which supports your recommended common equity cost rate?

A. Yes, I have. It has also been marked for identification as Exhibit No. 3 and consists of 15 schedules.

II. SUMMARY

Q. Please summarize your recommended common equity cost rate.

A. The overall cost of capital of 10.135% is based upon the Company's average capital structure and related ratios and fixed capital cost rates for the test year ended December 31, 2004 which are summarized on Schedule 1, page 1 of Exhibit No. 3 . The basis of the 12.50% common equity cost rate recommendation is summarized on Schedule 1, page 2 of Exhibit No. 3 .

The overall cost of capital is summarized in Table 1 following:

Table 1

	Capital Structure Ratios	Cost Rate	Weighted Return
Long-Term Debt	47.62%	7.90%	3.760%
Short-Term Debt	1.61	3.25	0.052
Total Debt	49.23		3.812
Preferred Stock	0.35	5.48	0.019
Common Equity	50.43	12.50	6.304
Total	100.01%(1)		10.135%

(1) Does not add due to rounding.

Q. Please summarize your recommended common equity cost rate of 12.50%.

A. I assessed the market-based cost rates of similar risk companies, i.e., proxy groups, for insight into a recommended common equity cost rate applicable to the Company and suitable for cost of capital purposes. Because the Company's common stock is not publicly traded, market-based common equity cost rates cannot be determined directly for the Company. Consequently, it is appropriate to look to a proxy group or groups of similar risk companies whose common stocks are actively traded for insight into an appropriate common equity cost rate applicable to the Company. Using other utilities of comparable risk as proxies is consistent with the principles of fair rate of return established in the Hope[1] and Bluefield[2] cases and adds reliability to the informed expert judgment used in arriving at a recommendation of common equity cost rate. Therefore, I have evaluated the market data of a proxy group of water companies and a group of utility companies in arriving at my recommended

[1] Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591 (1944).

[2] Bluefield Water Works Improvement Co. v. Public Serv. Comm'n, 262 U.S. 679 (1922).

common equity cost rate. The bases of selection are described below.

As explained in more detail below, my analysis reflects current capital market conditions and results from the application of four well-tested market-based cost of common equity models, the Discounted Cash Flow (DCF) approach, the Risk Premium Model (RPM), the Capital Asset Pricing Model (CAPM), and the Comparable Earnings Model (CEM). None is theoretically superior to the others or so precise as to justify sole reliance upon it.

The results derived from each model are as follows:

Table 2

	Proxy Group of Seven C.A. Turner Water Cos.	Proxy Group of Thirteen Utilities Selected on the Basis of Least Relative Distance
Discounted Cash Flow Model	10.1%	10.6%
Risk Premium Model	12.4	12.7
Capital Asset Pricing Model	12.3	12.9
Comparable Earnings Model	13.6	13.3
Average	12.1	12.4
Business Risk Adjustment	0.25	0.35
Indicated Common Equity Cost Rate After Adjustment for Business Risk	12.35%	12.75%
Recommended Common Equity Cost Rate	12.50%	

After reviewing the cost rates based upon the four models, I conclude that a common equity cost rate before adjustment for business risk of 12.10% is indicated based upon the application of all four models to the proxy group of seven C.A. Turner water companies and of 12.4% for the proxy group of thirteen utilities selected on the basis of least relative distance. After applying business risk adjustments due to

Consumers IL's small size relative to that of the two proxy groups, the indicated risk-adjusted common equity cost rates for each proxy group are 12.35% and 12.75%, respectively. Based upon these cost rates, I recommend a common equity cost rate of 12.50% is applicable to the Company's proposed common equity ratio of 50.43%.

III. GENERAL PRINCIPLES

Q. What general principles have you considered in arriving at your recommended common equity cost rate of 12.50%.

A. In unregulated industries, marketplace competition is the principal determinant establishing the price of a product or service. In the case of regulated public utilities, regulation must act as a substitute for marketplace competition. Consequently, marketplace data must be relied upon to assure that the utility can fulfill its obligations to the public and provide adequate service at all times. This requires a level of earnings sufficient to maintain the integrity of presently invested capital and permit the attraction of needed new capital at a reasonable cost in competition with other comparable-risk firms. These standards for a fair rate of return have been established by the U.S. Supreme Court in the Hope and Bluefield cases cited previously. Consequently, in my determination of a fair rate of return, I have made every effort to also evaluate data gathered from the marketplace for water utilities similar in risk to the Company.

IV. BUSINESS RISK

Q. Please define business risk and explain why it is important to the determination of a fair rate of return?

A. Business risk is a collective term which incorporates all of the risks of a firm other than financial risk, which will be discussed subsequently. Examples of business risk include the quality of management and the regulatory environment which have a direct bearing on earnings.

Business risk is important to the determination of a fair rate of return because the greater the level or risk, the greater the rate of return investors demand, consistent with the basic financial precept of risk and return.

Q. Please discuss the business risks facing the water industry in general.

A. Standard & Poor's (S&P)[3] has noted that while most of the regulatory risks associated with the Safe Drinking Water Act are behind the industry, the industry still faces the risks related to replacing aging transmission and distribution systems. As S&P states[4]:

> Yet, there will always be a steady stream of rate cases to incorporate spending related to upgrading plants and pipelines.

Value Line Investment Survey[5] expects:

> Long-term trends in the Water Utility Industry indicate that infrastructure costs will continue to escalate. Water Utilities must maintain and upgrade existing facilities in order to remain in compliance with increasingly strict rules mandated by the Environmental Protection Agency (EPA) and other local regulators. Many of the water/wastewater systems that are presently in use were originally built about 100 years ago. The EPA and other industry sources indicate that hundreds of billions of dollars over the next 20 years will be needed to repair the nation's entire water system.

[3] Standard & Poor's, Global Sector Review, December 1999, pp. 319-322.

[4] Id., p. 320.

[5] Value Line Investment Survey, January 31, 2002.

In addition, because the water industry is much more capital-intensive than the electric, natural gas or telephone industries, the investment required to produce a dollar of revenue is greater. Thus, the challenge to water utilities is significant.

As noted by S&P[6]:

> Additional challenges, such as limited growth prospects, regulatory lag, and low authorized returns and depreciation rates (about 2% versus around 3% for electric utilities), will continue to hamper financial performance in this highly capital-intensive business.

Lower depreciation rates, one of the principal sources of internal cash flows for all utilities, mean that water utility depreciation as a source of internally-generated cash is far less than for electric, natural gas or telephone utilities. Water utilities' assets have longer lives and, hence, longer capital recovery periods. As such, water utilities face greater risk due to inflation which results in a higher replacement cost per dollar of net plant than for other types of utilities.

Moody's[7] also notes that:

> Over the next several years, the credit quality of the U.S. water utility industry as a whole will be pressured by two factors: the costs of compliance with environmental legislation and of ongoing infrastructure development, and expansion beyond traditional service territories.
>
> Moody's believes that the cost of compliance with environmental mandates will be more an issue for small investor-owned utilities and for municipally owned water systems than for large investor-owned utilities.

[6] Standard & Poor's, CreditWeek, June 20, 1994, p. 38.

[7] Moody's Investors Service, Global Credit Research, "The Water Utility Industry: Risks Rise for Last U.S. Regulated Monopoly", Special Comment, February 1998, pp. 1 and 6.

* * *

> We expect that the credit quality of the smaller investor-owned and municipal and private water utilities will likely deteriorate over the next several years, reflecting continued environmental compliance requirements, and higher capital investments in constructing water treatment facilities, improving and replacing maturing distribution and delivery infrastructure.

In addition, the water utility industry, as well as the electric and natural gas utility industries, faces the need for increased funds to finance the increasing security costs required to protect the water supply and infrastructure from potential terrorist attacks in the post-September 11, 2001 world.

In view of the foregoing, it is clear that their high degree of capital intensity coupled with the need for substantial infrastructure capital spending and increased anti-terrorism security spending, require regulatory support in the form of adequate and timely rate relief so they will be able to successfully meet the challenges they face.

Q. Does Consumers IL face additional extraordinary business risk?

A. Yes. Consumers IL's smaller size, i.e., total capital of $94.396 million at December 31, 2001 (see page 3 of Schedule 1) vis-à-vis average total capital of $355.612 million in 2001 for the proxy group of seven C.A. Turner water companies (see page 3 of Schedule 1) and $4,317.115 million in 2001 for the proxy group of thirteen utilities selected on the basis of least relative distance (see page 3 of Schedule 1) indicates greater relative business risk because all else equal, size has a bearing on risk.

Q. Please explain why size has a bearing on business risk.

A. Smaller companies are less capable of coping with significant events which affect sales, revenues and earnings.

The loss of revenues from a few larger customers, for example, would have a greater effect on a small company than on a much larger company with a larger customer base. Because the Company is the regulated utility to whose rate base the Illinois Commerce Commission's (ICC) ultimately allowed overall cost of capital and fair rate of return will be applied, the relevant risk reflected in the cost of capital must be that of the Company, including the impact of its small size on common equity cost rate. Size is an important factor which affects common equity cost rate, and the Company is significantly smaller than the average company in either proxy group based upon total investor-provided capital as shown below:

Table 3

	2001 Total Capital(1) ($ millions)	Times Greater than The Company	Market Capitalization(1) ($ Millions)	Times Greater than the Company
Proxy Group of Seven C.A. Turner Water Companies	$355.612	3.8x	$391.994	3.9x
Proxy Group of Thirteen Utilities Selected on the Basis of Least Relative Distance	4,317.115	45.7x	3,236.257	31.5
Consumers IL	94.396		101.475(2) 102.720(3)	

(1) From Schedule 1, page 3 of Exhibit No. 3.
(2) Based upon the average market-to-book ratio of the proxy group of seven C.A. Turner water companies.
(3) Based upon the average market-to-book ratio of the proxy group of thirteen utilities selected on the basis of least relative distance.

I have also made a study of the market capitalization of the proxy group of

seven C.A. Turner water companies and the proxy group of thirteen utilities. The results are shown on page 5 of Schedule 1 of Exhibit No. 3 which summarizes the market capitalizations as of April 30, 2003.

Consumers IL's common stock is not publicly traded. Consequently, I have assumed that if it were publicly traded, its consolidated common shares would be selling at the same market-to-book ratios as the average market-to-book ratios for each proxy group, or 220.1% (seven water companies) and 222.8% (thirteen utilities) at April 30, 2003. Hence, the Company's market capitalization is estimated at $101.475 million and $102.720 based upon the average market-to-book ratios of each proxy group, respectively, as of April 30, 2003. In contrast, the market capitalization of the average C.A. Turner water company was $391.994 million on April 30, 2003, or 3.9 times larger than the Company's estimated market capitalization. In addition, the market capitalization of the average utility company selected on the basis of least relative distance was $3,236.257 million at April 30, 2003, or 31.5 times larger than Consumers IL. It is conventional wisdom, supported by actual returns over time, and a general premise contained in basic finance textbooks, that smaller companies tend to be more risky causing investors to expect greater returns as compensation for that risk.

Q. Does the financial literature affirm a relationship between size and common equity cost rate?

A. Yes. Brigham[8] states:

> A number of researchers have observed that portfolios of small-firms have earned consistently higher average returns than those of large-firms stocks; this is called "small-firm effect." On the surface, it would seem to be advantageous to the small firms to provide average

[8] Eugene F. Brigham, Fundamentals of Financial Management, Fifth Edition, The Dryden Press, 1989, p. 623.

> returns in a stock market that are higher than those of larger firms. In reality, it is bad news for the small firm; what *the small-firm effect means is that the capital market demands higher returns on stocks of small firms than on otherwise similar stocks of the large firms.* (italics added)

V. FINANCIAL RISK

Q. Please define financial risk and explain why it is important to the determination of a fair rate of return?

A. Financial risk is the additional risk created by the introduction of senior capital, i.e., debt and preferred stock, into the capital structure. In other words, the higher the proportion of senior capital in the capital structure, the higher the financial risk.

Utilities formerly were considered to have much less business risk vis-a-vis unregulated enterprises, and, as a result, a larger percentage of debt capital was acceptable to investors. In June 1999, S&P revised its utility financial targets to create a single set of financial targets for all utilities. S&P's current matrix approach to the bond rating process for utilities can be found in Exhibit No. 3 , Schedule 2, pages 11 and 12, while pages 1 through 10 describe the utility bond rating process. As shown on page 12, S&P's revised matrix approach to utilities establishes financial target ratios for ten levels of business position/profile with "1" being considered lowest risk and "10" being highest risk.

As shown on Exhibit No. 3 , Schedule 13, page 2, the average S&P bond rating and business position of the seven C.A. Turner water companies and is A+ "2.8", which rounds to "3" and A and "3.3" (rounded to "3") for the thirteen utilities selected on the basis of least relative distance.

Q. How can one measure the combined business and financial risks, i.e., investment risk of an enterprise?

A. Similar bond ratings reflect similar combined business and financial risks, i.e., total risk. Although the specific business or financial risks may differ between companies, the same bond rating indicates that the combined risks are similar as the bond rating process reflects acknowledgment of all diversifiable business and financial risks. For example, S&P expressly states that the bond rating process encompasses a qualitative analysis of business and financial risks (see pages 3 through 10 of Schedule 2 of Exhibit No. 3 . There is no perfect single proxy, such as bond rating or common stock ranking, by which one can differentiate common equity risk between companies. However, the bond rating provides a useful means to compare/differentiate common equity risk between companies because it is the result of a thorough and comprehensive analysis of all diversifiable business and financial risks, i.e., investment risk.

The Company's ratemaking total debt ratio of 49.10% is lower than the average debt ratios of the seven C.A. Turner water companies and thirteen utilities, 56.62% and 60.29%, respectively, for the latest year available, 2001, as shown on page 3 of Schedules 4 and 5 of Exhibit No. 3, indicating somewhat less relative financial risk for the Company. However, the Company's smaller size as previously discussed, indicates greater relative business risk and hence, the need to maintain a higher common equity ratio.

VI. CONSUMERS ILLINOIS WATER COMPANY

Q. Have you reviewed financial data for Consumers IL?

A. Yes. Consumers IL provides water services to approximately 65,000 retail customers in 31 municipalities through seven operating divisions: Candlewick Ivanhoe, Kankakee, Oak Run, Sublette, Tower Lakes, University Park, Vermilion,

Willowbrook, and Woodhaven. Consumers IL is a subsidiary of Consumers Water Company. Thus, the Company's common stock is not publicly traded.

As shown on page 1 of Schedule 3 of Exhibit No. 3, during the five-year period ending 1998, the achieved average earnings rate on book common equity for Consumers IL was 9.1%, ranging between 8.3% in 1998 to 10.2% in 1999.

VII. PROXY GROUPS

Q. Please explain how you chose the proxy group of seven C.A. Turner water companies.

A. The basis of selection for the proxy group of seven C.A. Turner water companies were those companies that meet the following criteria: 1) they are included in the Water Company Group of C.A. Turner Public Utility Reports (April 2003) and 2) which have Value Line (Standard Edition) or Thomson FN/FirstCall Consensus. Seven companies met all of these criteria.

Q. Please describe Schedule 4.

A. Schedule 4 contains comparative capitalization and financial statistics for the seven C.A. Turner water companies for the years 1997 through 2001. The schedule consists of three pages. Page 1 contains a summary of the comparative data for the years 1997-2001. Page 2 contains notes relevant to page 1, as well as the basis of selection of the individual companies in the proxy group. Page 3 contains the capital structure ratios based upon total capital (including short-term debt) by company and on average for the years 1997-2001.

During the five-year period ending 2001, the achieved average earnings rate

on book common equity for this group ranged between 10.4% in 2000 and 11.5% in 1999, and averaged 10.7%. The five-year average market/book ratio ending 2001 was 197.9%. The five-year average ending 2001 common equity ratio based on total investor-provided capital was 45.4%, while the five-year average dividend payout ratio was 69.9%.

Coverage of interest charges, excluding all AFUDC from income available to pay such charges, before income taxes for the years 1997-2001 ranged between 2.92 and 3.14 times and averaged 2.98 times during the five-year period.

Q. Please explain how you chose the proxy group of thirteen utilities selected on the basis of least relative distance.

A. Investment risk is the sum of business and financial risks. I chose to examine eight operating / financial ratios that I believe provide comprehensive insight into the business and financial risks of utilities, including water companies. I based my analyses upon the average results for the years 1999, 2000, and 2001. As the benchmark I utilized, for Consumers IL, the three-year average for each of eight ratios which are described as follows: 1) pretax interest coverage; 2) common equity ratio; 3) fixed asset turnover; 4) the percentage of allowance for funds used during construction (AFUDC) to net income; 5) cash flow as a percentage of permanent capitalization; 6) the ratio of net cash flow to expenditures; 7) interest coverage based on funds flow; and 8) operating earnings stability.

I employed the Company's ratios as described above in order to select companies comparable in risk to Consumers IL. I began with all electric, gas, combination electric and gas and water utilities for which data are available for the entire time period in the Standard & Poor's Compustat Services, Inc., PC Plus Database. I calculated the three-year average ratios for 104 electric, gas,

combination electric and gas and water utilities and rank-ordered them in terms of the least relative distance to Consumers IL. The sum of distance was obtained by calculating the squared distances between the eight operating / financial ratios of each firm and those of the Company, summing those squared distances, and then by calculating the square root of the summation. Thirteen utilities were selected as having the lowest sum of distance from Consumers IL. Consequently, these companies, based upon the eight operating / financial ratios, are the closest in risk to Consumers IL. Their financial profile is summarized in Schedule 5.

Q. Please describe Schedule 5.

A. Schedule 5 contains comparative capitalization and financial statistics for the thirteen utilities selected on the basis of least relative distance for the years 1997 through 2001. The schedule consists of six pages. Page 1 contains a summary of the comparative data for the years 1997-2001. Page 2 contains notes relevant to page 1, as well as the basis of selection of the individual companies in the proxy group. Pages 3 and 4 contain the capital structure ratios based upon total capital (including short-term debt) by company and on average for the proxy group for the years 1997-2001. Page 5 contains the eight ratios for Consumers IL and the thirteen utilities which have the lowest sum of distance and thus are closest in risk to Consumers IL. Page 6 contains notes relevant to page 5.

During the five-year period ending 2001, the achieved average earnings rate on book common equity for this group ranged between 11.2% in 1998 and 13.6% in 2001, and averaged 12.5%. The five-year average market / book ratio ending 1998 was 196.8%. The five-year average ending 1998 common equity ratio based on total investor-provided capital was 43.0%, while the five-year average dividend payout ratio was 76.3%.

Coverage of interest charges, excluding all AFUDC from income available to pay such charges, before incomes taxes for the years 1997-2001 ranged between 2.92 and 3.46 times and averaged 3.15 times during the five-year period.

VIII. COMMON EQUITY COST RATE MODELS

A. The Efficient Market Hypothesis (EMH)

Q. Are the cost of common equity models you use market-based models, and hence based upon the EMH?

A. Yes. The DCF model is market-based in that market prices are utilized in developing the dividend yield component of the model. The RPM is market-based in that the bond ratings and expected bond yields used in the application of the RPM reflect the market's assessment of risk. In addition, the use of betas to determine the equity risk premium also reflects the market's assessment of risk as betas are derived from regression analyses of market prices. The CAPM is market-based for many of the same reasons that the RPM is market-based, i.e., the use of expected bond (Treasury bond) yields and betas. The CEM is market-based in that the process of selecting the comparable risk non-utility companies is based upon statistics which result from regression analyses of market prices. Therefore, all the cost of common equity models I utilize are market-based models, and hence based upon the EMH.

Q. Please describe the conceptual basis of the EMH.

A. The Efficient Market Hypothesis (EMH), which is the foundation of modern investment theory, was pioneered by Eugene F. Fama[9] in 1970. An efficient market is one in

[9] Fama, Eugene F., "Efficient Capital Markets: A Review of Theory and Empirical Work". Journal of Finance, May 1970, pp. 383-417.

which security prices reflect all relevant information all the time. This implies that prices adjust instantaneously to new information, thus reflecting the intrinsic fundamental economic value of a security.[10]

The essential components of the EMH are:

A. Investors are rational and invest in assets providing the highest expected return given a particular level of risk.

B. Current market prices reflect all publicly available information.

C. Returns are independent, i.e., today's market returns are unrelated to yesterday's returns.

D. Capital markets follow a random walk, i.e., the probability distribution of expected returns approximates a normal distribution, i.e., a bell curve.

Brealey and Myers state:[11]

> When economists say that the security market is 'efficient', they are not talking about whether the filing is up to date or whether desktops are tidy. They mean that information is widely and cheaply available to investors and that all relevant and ascertainable information is already reflected in security prices.

The three forms of the EMH are:

A. The "weak" form which asserts that all past market prices and data are fully reflected in securities prices, i.e., technical analysis cannot enable an investor to "outperform the market".

B. The "semistrong" form which asserts that all publicly available information is fully reflected in securities prices, i.e., fundamental analysis cannot enable an investor to "outperform the market".

C. The "strong" form which asserts that all information, both public and private,

[10] Morin, Roger A., Regulatory Finance - Utilities' Cost of Capital. Public Utility Reports, Inc., Arlington, VA, 1994, p. 136.

[11] Brealey, R.A. and Myers, S.C., Principles of Corporate Finance, McGraw-Hill Publications, Inc., 1996, pp. 323-324.

> is fully reflected in securities prices, i.e., even insider information cannot enable an investor to "outperform the market".

The "semistrong" form of the EMH is generally held to be true because the use of insider information often enables investors to "outperform the market" and earn excessive returns. The generally-accepted "semistrong" form of the EMH means that all perceived risks are taken into account by investors in the prices the pay for securities. Investors are aware of all publicly-available information, including bond ratings; discussions about companies by bond rating agencies and investment analysts as well as the various cost of common equity methodologies (models) discussed in the financial literature. In an attempt to emulate investor behavior, this means that no single common equity cost rate model should be relied upon in determining a cost rate of common equity and that the results of multiple cost of common equity models should be taken into account.

Q. Is there support in the academic literature for the need to rely upon more than one cost of common equity model in arriving at a recommended common equity cost rate?

A. Yes. For example, Phillips[12] states:

> Since regulation establishes a level of authorized earnings which, in turn, implicitly influences dividends per share, *estimation of the growth rate from such data is an inherently circular process. For these reasons, the DCF model "suggests a degree of precision which is in fact not present" and leaves "wide room for controversy and argument about the level of k".* (italics added) (p. 396)
>
> * * *
>
> Despite the difficulty of measuring relative risk, the comparable earnings standard is no harder to apply than is the market-determined standard.

[12] Charles F. Phillips, Jr., The Regulation of Public Utilities-Theory and Practice, 1993, Public Utility Reports, Inc., Arlington, VA, p. 396, 398.

The DCF method, to illustrate, requires a subjective determination of the growth rate the market is contemplating. Moreover, as Leventhal has argued: *'Unless the utility is permitted to earn a return comparable to that available elsewhere on similar risk, it will not be able in the long run to attract capital.'* (italics added) (p. 398)

Also, Morin[13] states:

Sole reliance on the DCF model ignores the capital market evidence and financial theory formalized in the CAPM and other risk premium methods. The DCF model is one of many tools to be employed in conjunction with other methods to estimate the cost of equity. *It is not a superior methodology that supplants other financial theory and market evidence. The broad usage of the DCF methodology in regulatory proceedings does not make it superior to other methods.* (italics added) (Morin, pp. 231-232)

Each methodology requires the exercise of considerable judgment on the reasonableness of the assumptions underlying the methodology and on the reasonableness of the proxies used to validate a theory. *The failure of the traditional infinite growth DCF model to account for changes in relative market valuation, discussed above, is a vivid example of the potential shortcomings of the DCF model when applied to a given company. It follows that more than one methodology should be employed in arriving at a judgment on the cost of equity and that these methodologies should be applied across a series of comparable risk companies. ...Financial literature supports the use of multiple methods.* (italics added) (Morin, p. 239)

Professor Eugene Brigham, a widely respected scholar and finance academician asserted:

In practical work, it is often best to use all three methods -CAPM, bond yield plus risk premium, and DCF - and then apply judgement when the methods produce different results. People experienced in estimating capital costs recognize that both careful analysis and very fine judgements are required. It would be nice to pretend that these judgements are unnecessary and to specify an easy, precise way of determining the exact cost of equity capital. Unfortunately, this is not possible. (italics added) (Morin, pp. 239-240)

Another prominent finance scholar, Professor Stewart Myers, in his best-selling

[13] Roger A. Morin, Regulatory Finance-Utilities' Cost of Capital, 1994, Public Utilities Reports, Inc., Arlington, VA, pp. 231-232, 239-240.

corporate finance textbook stated:

> *The constant growth formula and the capital asset pricing model are two different ways of getting a handle on the same problem.* (italics added) (Morin, p. 240)

In an earlier article, Professor Myers explained the point more fully:

> Use more than one model when you can. Because estimating the opportunity cost of capital is difficult, only a fool throws away useful information. That means you should not use any one model or measure mechanically and exclusively. Beta is helpful as one tool in a kit, to be used in parallel with DCF models or other techniques for interpreting capital market data. (Morin, p. 240)

In view of the foregoing, it is clear that investors are aware of all of the models available for use in determining common equity cost rate. The EMH requires the assumption that, collectively, investors use them all.

B. Discounted Cash Flow Model (DCF)

1. Theoretical Basis

Q. What is the theoretical basis of the DCF model?

A. The theory of the DCF model is that the present value of an expected future stream of net cash flows during the investment holding period can be determined by discounting the cash flows at the cost of capital, or the capitalization rate. DCF theory suggests that an investor buys a stock for an expected total return rate which is expected to be derived from cash flows received in the form of dividends plus appreciation in market price (the expected growth rate). Thus, the dividend yield on market price plus a growth rate equals the capitalization rate, i.e., the total return rate expected by investors.

Q. Please comment on the applicability of the DCF model in establishing a cost of common equity for the Company.

A. The extent to which the DCF is relied upon should depend upon the extent to which the cost rate results differ from those resulting from the use of other cost of common equity models because the DCF model has a tendency to mis-specify investors' required return rate when the market value of common stock differs significantly from its book value. Market values and book values of common stocks are seldom at unity. The market-based DCF model will result in a total annual dollar return on book common equity equal to the total annual dollar return expected by investors only when market and book values are equal, a rare and unlikely situation. In recent years, the market values of utilities' common stocks have been well in excess of their book values as shown on Exhibit No. 3 , page 1 of Schedule 4 ranging between 175.4% and 218.0% for the proxy group of seven C.A. Turner water companies and between 182.2% and 219.9% for the proxy group of eighteen utilities selected on the basis of least relative distance as shown on page 1 of Schedule 5 of Exhibit No. 3.

Mathematically, the DCF model understates/overstates investors' required return rate when market value exceeds/is less than book value because, in many instances, market prices reflect investors' assessments of long-range market price growth potentials (consistent with the infinite investment horizon implicit in the standard regulatory version of the DCF model) not fully reflected in analysts' shorter range forecasts of future growth for earnings per share (EPS) and dividends per share (DPS) accounting proxies. This indicates the need to better match market prices with investors' longer range growth expectations embedded in those prices. However, the understatement/overstatement of investors' required return rate associated with the application of the market price-based DCF model to the book value of common equity clearly illustrates why reliance upon a single common equity cost rate model should be

avoided.

2. Applicability of a Market-Based Common Equity Cost Rate to a Book Value Rate Base

Q. Is it reasonable to expect the market values of utilities' common stocks to continue to sell well above their book values?

A. Yes. I believe that the common stocks of utilities will continue to sell substantially above their book values, because many investors, especially individuals who traditionally committed less capital to the equity markets, will likely continue to commit a greater percentage of their available capital to common stocks in view of lower interest rate alternative investment opportunities and to provide for retirement. The recent past and current capital market environment is in stark contrast to the late 1970's and early 1980's when very high (by historical standards) yields on secured debt instruments in public utilities were available.

The significant recent increases in market-to-book ratios have been influenced by factors other than fundamentals such as actual and reported growth in earnings per share (EPS) and dividends per share (DPS). For example, David Wessel in the Wall Street Journal states:[14]

> So if the fundamentals aren't driving stock prices, then what is? It's that hard-to-quantify investor appetite for buying stocks. The market has been strong because lots of people want to hold stocks. It will continue to be strong as long as they continue to be willing to pay more for stocks than they used to.
>
> * * *
>
> Psychoanalyzing investors is a favorite pastime, from Wall Street saloons to American livingrooms. Perhaps baby boomers, intent

[14] "If This is a Bubble, It Sure is Hard to Pop," Wall Street Journal, March 30, 1999, pp. A1 and A6.

> on saving for retirement and their children's college tuition, see stocks as the only smart alternative. Perhaps Generation-Xers fear Social Security will vanish before they retire, and are bulking up on stocks. Perhaps mutual-fund marketing has diverted billions of dollars that once would have ended up in low-interest bank accounts. Perhaps the internet age has dispelled the mystique of the stock market; everyone can do it.

Traditional rate base/rate of return regulation, where a market-based common equity cost rate is applied to a book value rate base, presumes that market-to-book ratios are one. This is an unproven presumption as there is ample empirical evidence over sustained periods which demonstrates otherwise. However, this is rarely the case as there are many factors affecting the market price of common stocks, in addition to earnings. Moreover, allowed ROEs have a limited effect on utilities' market/book ratios as market prices of common stocks are influenced by a number of other factors beyond the direct influence of the regulatory process.

For example, Phillips[15] states:

> Many question the assumption that market price should equal book value, believing that 'the earnings of utilities should be sufficiently high to achieve market-to-book ratios which are consistent with those prevailing for stocks of unregulated companies.'

[15] Id., at p. 395.

In addition, Bonbright[16] states:

> In the first place, commissions cannot forecast, except within wide limits, the effect their rate orders will have on the market prices of the stocks of the companies they regulate. In the second place, *whatever the initial market prices may be, they are sure to change not only with the changing prospects for earnings, but with the changing outlook of an inherently volatile stock market.* In short, market prices are beyond the control, though not beyond the influence of rate regulation. Moreover, even if a commission did possess the power of control, any attempt to exercise it ... would result in harmful, uneconomic shifts in public utility rate levels. (italics added)

In view of the foregoing, a mismatch results in the application of the DCF model as market prices reflect long range expectations of growth in market prices (consistent with the presumed infinite investment horizon of the standard DCF model), while the short range forecasts of growth in accounting proxies, i.e., EPS and DPS, do not reflect the full measure of growth (market price appreciation) expected in per share market value.

Q. Please explain why a DCF-derived common equity cost rate mis-specifies investors' expected common equity cost rate when the market/book ratio is greater or less than unity (100%).

A. Under the DCF model, the rate of return investors require is related to the price paid for a stock, i.e., market price is the basis upon which they formulate the required rate of return. A regulated utility is limited to earning on its net book value (depreciated original cost) rate base. As discussed previously, market values differ from book values for many reasons unrelated to earnings. Thus, when market values differ

[16] James C. Bonbright, Albert L. Danielsen and David R. Kamerschen, Principles of Public Utility Rates, 1988, Public Utilities Reports, Inc., Arlington, VA, p. 334.

significantly from book values, a market-based DCF cost rate applied to the book value of common equity will not accurately reflect investors' expected common equity cost rate. It will either overstate or understate investors' expected common equity cost rate (without regard to any adjustment for flotation costs which may, at times, be appropriate on an ad hoc basis) depending upon whether market value is less than or greater than book value.

Exhibit No. 3 , Schedule 6 demonstrates how a market-based DCF cost rate applied to a book value which is either below or above market value will either understate or overstate investors' expectations because these expectations are based on a required return on market value. As shown, there is no realistic opportunity to earn the market-based rate of return on book value. As shown in Column 1, investors expect a 10.00% return on a market price of $24.00. As shown in Column 2, when the 10.00% return rate on market value is applied to book value which is approximately 55.5% of market value, the total annual return opportunity is just $1.333 on book value. With an annual dividend of $0.960, there is an opportunity for growth of $0.373 which translates to just 1.55% in contrast to the 6.00% growth in market price expected by investors. There is no way to possibly achieve the expected growth of $1.440 or 6.00% absent a huge cut in the annual dividend, an unreasonable expectation which would result in an extremely adverse reaction by investors because it would be a sign of extreme financial distress.

Conversely, in Column 3, where the market-to-book ratio is 80%, when the 10.00% return rate on market value is applied to a book value which is approximately 25.0% greater than market value, the total annual return opportunity is $3.000 on book value with an annual dividend of $0.960, there is an opportunity for growth of $2.040 which translates to 8.50% in contrast to the 6.00% growth in market price expected by investors.

In view of the foregoing, it is clear that the DCF model either understates or

overstates investors' required cost of common equity capital when market values exceed or are less than their underlying book values and thus multiple cost of common equity models should be relied upon when estimating investors' expectations.

Q. Have any commissions explicitly stated that the DCF model should not be relied upon exclusively?

A. Yes. As stated previously, the majority of regulatory commissions rely upon no single cost of common equity model.

Specifically, the Iowa Utilities Board (IUB) has recognized the tendency of the DCF model to understate investors' expected cost of common equity capital when market values are significantly above their book values. In its June 17, 1994 Final Decision and Order in Docket No. RPU-93-9 Re U.S. West Communications, the IUB stated:[17]

> While the Board has relied in the past on the DCF model, in *Iowa Electric Light and Power Company*, Docket No. RPU-89-9, "Final Decision and Order" (October 15, 1990), the Board stated: '[T]he DCF model may understate the return on equity in some circumstances. This is particularly true when the market is relatively volatile and the company in question has a market-to-book ratio in excess of one." Those conditions exist in this case and the Board will not rely on the DCF return. (Consumer Advocate Ex. 367, See Tr. 2208, 2250, 2277, 2283-2284). *The DCF approach underestimates the cost of equity needed to assure capital attraction during this time of market uncertainty and volatility*. *The board will, therefore, give preference to the risk premium approach.* (italics added)

Similarly, in 1994, the Indiana Utility Regulatory Commission (IURC), for example,

[17] Public Utilities Reports - 152 PUR4th, Re: U.S. West Communications, Inc., Docket No. RPU-93-9, p. 459.

recognized the tendency of the DCF model to understate the cost of equity when market value exceeds book value[18]:

> In determining a common equity cost rate, we must again recognize the tendency of the traditional DCF model, . . . to understate the cost of common equity. As the Commission stated in Indiana-Mich. Power Co. (IURC 8/24/90), Cause No. 38728, 116 PUR 4th 1, 17-18, *"the unadjusted DCF result is almost always well below what any informed financial analyst would regard as defensible, and therefore, requires an upward adjustment based largely on the expert witness's judgement."* (italics added)
>
> * * *
>
> [u]nder the traditional DCF model . . . the appropriate earnings level of the utility would not be derived by applying the DCF result to the market price of the Company's stock . . . it would be applied to the utility's net original cost rate base. *If the market price of the stock exceeds its book value, . . . the investor will not achieve the return which the model finds is necessary.* (italics added)

Also, the Hawaii Public Utilities Commission recognized this phenomenon in a decision dated 6/30/92[19] in a case regarding Hawaiian Electric Company, Inc., when it stated:

> In this docket, as in other rate proceedings, experts disagree on the relative merits of the various methods of determining the cost of common equity. In this docket, HECO is particularly critical of the use of the constant growth DCF methodology. It asserts that method is imbued with downward bias and, thus, its use will understate common equity cost. *We are cognizant of the shortcomings of the DCF method.* There are, however, shortcomings to be found with the use of CAPM and the RP methods as well. We reiterate that, despite the problems with the use of any methodology, *all methods should be considered and that the DCF method and the combined CAPM and RP methods should be given equal weight.* (italics

[18] Public Utilities Reports - 150PUR4th, Re: Indiana-American Water Company, Inc., Cause No. 39595, pp. 167-168.

[19] Public Utilities Reports - 134 PUR4th, Re: Hawaiian Electric Company, Inc., Docket No. 6998, p. 479.

added)

More recently, the PA PUC, in its January 10, 2002 Opinion and Order in Docket Nos. R-00016339 (PAWC) and C0001 through C0051 re: Pennsylvania-American Water Company (PAWC) stated:

> We note that, in *Lower Paxton Township v. Pennsylvania Public Utility Commission*, 317 A.2c917 (Pa. Cmwlth. 1974) (*Lower Paxton Township*), the Commonwealth Court recognized that this Commission may consider such factors that affect the cost of capital such as the utility's financial structure, credit standing, dividends, risk, regulatory lag, wasting assets and any peculiar features of the utility involved.
>
> We are persuaded by PAWC's "at risk" adjustment of 60 basis points, PAWC argues that a preliminary DCF calculation, which is computed using the market price of PAWC's common stock, should be adjusted to reconcile the divergence between market and book values. The indicated cost of common equity of 10 percent, therefore, reflects the barometer group's average *market* capitalization, which includes a common equity ratio of 62 percent as opposed to our recommended common equity ratio of 42.62 percent which reflects significantly more financial risk.
>
> PAWC further argues that, when investors value a Company's common stock, they employ actual market capitalization data and not book data although book capitalization is employed for ratemaking purposes. Accordingly, we find that, in order to place the computed DCF result on a consistent basis with the greater financial risk inherent in PAWC's book value-derived capital structure ratios. A 60 basis point financial risk adjustment above our 10.00 percent representative DCF common equity cost rate recommendation is warranted.
>
> Based on our analysis of the record, we conclude that PAWC's cost of common equity of 10.60 percent is reasonable and appropriate under the circumstances in this proceeding.

Q. Do other cost of common equity models contain unrealistic assumptions and have shortcomings?

A. Yes. That is why I am not recommending that any of the models be relied upon

exclusively. I have focused on the shortcomings of the DCF model because some regulatory commissions still place excessive or exclusive reliance upon it. Although the DCF model is useful, it is not a superior methodology that supplants financial theory and market evidence based upon other valid cost of common equity models. For these reasons, no model, including the DCF, should be relied upon exclusively.

3. Application of the Single-Stage DCF Model

a. Dividend Yield

Q. Please describe the dividend yield you used in your application of the DCF model.

A. The unadjusted dividend yields are based upon an average of a recent spot date (April 30, 2003) as well as an average of the three, six and twelve months ended April 30, 2003, respectively, which are shown on Exhibit No. 3 , Schedule 8. The average unadjusted yield of 3.3% for the seven C.A. Turner water companies and 5.1% for the thirteen utilities selected on the basis of least relative distance is shown on Schedule 8, Line Nos. 1 and 6 and individually for the companies in the proxy groups on Schedule 10.

b. Discrete Adjustment of Dividend Yield

Q. Please explain the dividend growth component shown on Exhibit No. 3 , Schedule 8, Line Nos. 2 and 7.

A. Because dividends are paid quarterly, or periodically, as opposed to continuously (daily), an adjustment to the dividend yield must be made. This is often referred to as the discrete, or the Gordon Periodic, version of the DCF model.

Since the various companies in the proxy groups increase their quarterly dividend at various times during the year, a reasonable assumption is to reflect one-

half the annual dividend growth rate in the D_1 expression, or $D_{1/2}$. This is a conservative approach which does not overstate the dividend yield which should be representative of the next twelve-month period. Therefore, the actual average dividend yields on Line Nos. 1 and 6 of Schedule 8 have been adjusted upward to reflect one-half the growth rates shown on Line Nos. 4 and 9.

c. Selection of Growth Rates for Use in the DCF Model

Q. Please explain the basis of the growth rates of 5.7%/7.2% for the proxy group of seven C.A. Turner water companies and 4.6%/6.1% for the proxy group of thirteen utilities selected on the basis of least relative distance which you use in your application of the DCF model.

A. Schedule 11 of Exhibit No. 3 indicates that 80.1% of the common shares of the proxy group of seven C.A. Turner water companies and 64.8% of the common shares of the proxy group of thirteen utilities selected based on least relative distance are held by individuals as opposed to institutional investors. Individual investors are particularly likely to place great significance on the opinions expressed by financial information services, such as Value Line and Thomson FN/First Call, which are easily accessible and/or available on the Internet.

Forecasts by analysts, including Value Line, are typically limited to five years. In my opinion, I believe that investors in water utilities would have little interest in historical growth rates beyond the most recent five years because an historical five-year period balances the five-year period for projected growth rates. Consequently, the use of five-year historical and five-year projected growth rates in earnings per share (EPS) and dividends per share (DPS) as well as the sum of internal and external growth in per share value (BR + SV) is appropriate to consider in the determination of a growth rate for use in this application of the DCF model. In

addition, investors realize that analysts have significant insight into the dynamics of the industries and they analyze individual companies as well as companies' abilities to effectively manage the effects of changing laws and regulations. Consequently, I have reviewed analysts' projected growth in EPS, as well as historical and projected five-year compound growth rates in EPS, DPS and BR + SV for each company in each proxy group. The historical growth rates are from Value Line or calculated in a manner similar to Value Line, while the projected growth rates in earnings are from Value Line and Thomson FN/First Call forecasts. Thomson FN/First Call growth rate estimates are not available for DPS and internal growth, and they do not include the Value Line projections.

In addition to evaluating EPS and DPS growth rates, it is reasonable to assume that investors also assess BR + SV. The concept is based on well documented financial theory that future dividend growth is a function of the portion of the overall return to investors which is reinvested in the firm plus the sales of new common stock. Consequently, the growth component as proxied by internal and external growth is defined as follows:

$$g = BR + SV$$

Where:

B = the fraction of earnings retained by the firm, i.e., retention ratio

R = the return on common equity

S = the growth in common shares outstanding

V = the premium/discount of a company's stock price relative to its book value, i.e., one minus the complement of the market/book ratio.

Consistent with the use of five-year historical and five-year projected growth rates in EPS and DPS, I have derived five-year historical and five-year projected BR+SV growth. Projected EPS growth rate averages are shown on Line No. 9,

while historical and projected growth in DPS, EPS, and BR + SV is shown on Line No. 4, Schedule 8. All of these growth rates are summarized for the companies in each proxy group on page 1, Schedule 12 of Exhibit No. 3. Supporting growth rate data are detailed on pages 2 through 9 of Schedule 12. Pages 10 through 20 of Schedule 12 contain all of the most current Value Line Investment Survey (Standard Edition) data for those companies in both proxy groups which are covered in the Standard Edition of Value Line Investment Survey.

As shown on page 1 of Schedule 12, growth rates for the proxy group of seven C.A. Turner water companies range from 2.8% to 8.3%, with a midpoint of 5.6% and an average of 5.8%, while projected growth rates in EPS averaged 7.2%. Likewise, growth rates for the proxy group of thirteen utilities range from 2.1% to 6.8%, with a midpoint of 4.5% and an average of 4.7%, while projected growth rates in EPS averaged 6.1%. Consequently, I conclude that growth rates of 5.7%/7.2% for the proxy group of seven C.A. Turner water companies of 4.6%/6.1% for the proxy group of thirteen utilities are suitable to use in the application of the DCF model.

d. Conclusion of Single-Stage Cost Rates

Q. Please summarize the single-stage growth DCF model results.

A. As shown on Exhibit No. 3, Schedule 8, Line Nos. 5 and 10, the results of the applications of the single-stage DCF model are 9.1%/10.6% for the proxy group of seven C.A. Turner water companies and 9.8%/11.4% for the proxy group of thirteen utilities.

4. Application of the Quarterly Version of the DCF Model

Q. Please describe the quarterly version of the DCF model which you use to calculate

the indicated common equity cost rates.

A. The traditional, or annual, single-stage, DCF model is based upon the assumption that dividends are paid annually. Virtually every utility pays dividends on a quarterly basis. The quarterly DCF model takes into account the reality of quarterly payments of dividends to investors. As Morin states[20] (Schedule 9, page 5):

> By analogy, a bank rate on deposits that does not take into consideration the timing of the interest payments understates the true yield if the customer receives the interest payments more than one a year. The actual yield will exceed the stated nominal rate.

The form of the model employed is shown in detail in Equation (7-2) shown on Schedule 9, page 5, an excerpt from Morin's text, Regulatory Finance: Utilities' Cost of Capital.

a. Selection of Market Prices for Use in the Quarterly Version of the DCF Model

Q. What periods of time have you used for market prices in order to employ the quarterly DCF model?

A. As indicated in Schedule 9, I employed the recent spot market prices as of April 30, 2003 as well as average market prices of the three, six and twelve months ended April 30, 2003 consistent with my application of the single-stage DCF model previously discussed.

b. Selection of Growth Rates for Use in the Quarterly Version of the DCF Model

Q. What growth rates did you use in your application of the quarterly version of the DCF model?

[20] Id., p. 184.

A. I utilized growth rates for each company based upon historical and projected growth in DPS, EPS, and BR+SV as well as based upon average projected growth in EPS calculated in a manner identical to the average growth rates for each proxy group previously discussed in this testimony.

c. Conclusion of Quarterly Version DCF Cost Rates

Q. Please summarize the quarterly DCF model results.

A. As shown on Exhibit No. 3, Schedule 9, pages 1 and 2, the results of the application of the quarterly version of the DCF model are 9.6%/10.8% for the proxy group of seven C.A. Turner water companies and 10.0%/11.0% for the proxy group of thirteen utilities.

5. Conclusion of DCF Cost Rates

Q. Please summarize the DCF model results.

A. As shown on Exhibit No. 3, Schedule 7, the results of the applications of the DCF models are 10.1% for the proxy group of seven C.A. Turner water companies and 10.6% for the proxy group of thirteen utilities selected on the basis of least relative distance.

C. The Risk Premium Model (RPM)

1. Theoretical Basis

Q. Please describe the theoretical basis of the RPM.

A. Risk Premium theory indicates that the cost of common equity capital is greater than

the prospective company-specific cost rate for long-term debt capital. In other words, the cost of common equity equals the expected cost rate for long-term debt capital plus a risk premium to compensate common shareholders for the added risk of being unsecured and last-in-line in any claim on the corporation's assets and earnings.

Q. Some analysts state that the RPM is another form of the CAPM. Do you agree?

A. While there are some similarities, there is a very significant distinction between the two models. The RPM and CAPM both add a "risk premium" to an interest rate. However, the beta approach to the determination of an equity risk premium in the RPM should not be confused with the CAPM. Beta is a measure of systematic, or market, risk, a relatively small percentage of total risk, i.e., the sum of both non-diversifiable systematic and diversifiable unsystematic risk. Unsystematic risk is fully captured in the RPM through the use of the prospective long-term bond yield as can be verified by reference to pages 3 through 10 of Exhibit No. 3 , Schedule 2, which confirm that the bond rating process involves an assessment of all business and financial risks, i.e., total risk. In contrast, the use of a risk-free rate of return in the CAPM does not, and by definition can not, reflect a company's specific, i.e., unsystematic risk. Consequently, a much larger portion of the total common equity cost rate is reflected in the company-specific bond yield (a product of the bond rating) than is reflected in the risk-free rate in the CAPM, or indeed even by the dividend yield employed in the DCF model. Moreover, the financial literature recognizes the RPM and CAPM as two separate and distinct cost of common equity models as discussed previously.

Q. Have you performed RPM analyses of common equity cost rate for the two proxy

groups?

A. Yes. The results of my application of the RPM is summarized on page 1 of Exhibit No. 3 , Schedule 13. On Line No. 3, page 1, Schedule 13, I show the average expected yield on A rated public utility bonds of 7.2%. On Line No. 4, I show the adjustments, if necessary, that need to be made to the average 7.2% expected A rated utility bond yield so that the expected yield of 7.2% in Line No. 5 is reflective of the average Moody's bond rating of A2 for both proxy groups as shown on page 2 of Exhibit No. 3 , Schedule 13. On Line No. 6 of page 1, my conclusion of equity risk premium applicable to each proxy group is shown, while the total risk premium common equity cost rates are shown on Line No. 7.

2. Estimation of Expected Bond Yield

Q. Please explain the basis of the expected bond yield of 7.2% applicable to the average company in both proxy groups.

A. Because the cost of common equity is prospective, a prospective yield on similarly-rated long-term debt is essential. As shown on Schedule 13, page 2, the average Moody's bond rating for the proxy group of seven C.A. Turner water companies is A2. The average Moody's bond rating is also A2 for the proxy group of thirteen utilities selected on the basis of least relative distance. I relied upon a consensus forecast of about 50 economists of the expected yield on Aaa rated corporate bonds for the six calendar quarters ending with the third calendar quarter of 2004 as derived from the May 1, 2003 Blue Chip Financial Forecasts (shown on page 7 of Schedule 13). As shown on Line No. 1 of page 1 of Schedule 13, the average expected yield on Moody's Aaa rated corporate bonds is 6.3%. It is necessary to adjust that average yield to be equivalent to a Moody's A2 rated public utility bond.

Consequently, an adjustment to the average prospective yield on Aaa rated corporate bonds of 0.9% was required. It is shown on Line No. 2, page 1 of Schedule 13 and explained in Note 2 at the bottom of the page. After adjustment, the expected bond yield applicable to a Moody's A rated public utility bond is 7.2% as shown on Line No. 3, page 1 of Schedule 13.

Because the average Moody's bond rating for both proxy groups is A2, no adjustment to the 7.2% prospective yield on A rated public utility bonds is necessary. Therefore, the expected proxy group specific bond yield is 7.2% for both proxy groups.

3. Estimation of the Equity Risk Premium

Q. Please explain the method utilized to estimate the equity risk premium.

A. I evaluated the results of two different historical equity risk premium studies, as well as Value Line's forecasted total annual return on the market over the prospective yield on high grade corporate bonds, as detailed on pages 5, 6 and 8 of Exhibit No. 3 , Schedule 13. As shown on Line No. 3, page 5 of Schedule 13, the mean equity risk premium based on both of the studies is 5.2% applicable to the proxy group of seven C.A. Turner water companies and 5.5% applicable to the proxy group of thirteen utilities selected on the basis of least relative distance. This estimate is the result of an average of beta-derived historical equity risk premium and a forecasted total market equity risk premium as well as the mean historical equity risk premium applicable to public utilities with bonds rated A based upon holding period returns.

The basis of the beta-derived equity risk premiums applicable to each proxy group is shown on page 6 of Exhibit No. 3 , Schedule 13. Beta-determined equity risk premiums should receive substantial weight because betas are derived from the market prices of common stocks over a recent five-year period. Beta is a

meaningful measure of prospective relative risk to the market as a whole and is a logical means by which to allocate a relative share of the market's total equity risk premium.

The total market equity risk premium utilized was 9.2% and is based upon an average of both the long-term historical and forecasted market risk premiums of 6.0% and 12.3%, respectively, as shown on page 6 of Exhibit No. 3 , Schedule 13. To derive the historical market equity risk premium, I used the most recent Ibbotson Associates' data on holding period returns for the S&P 500 Composite Index and Salomon Brothers Long-term High-grade Corporate Bond Index covering the period 1926-2002. The use of holding period returns over a very long period of time is useful in the beta approach. As Ibbotson Associates'[21] Valuation Edition 2003 Yearbook states:

> The estimate of the equity risk premium depends on the length of the data series studied. A proper estimate of the equity risk premium requires a data series long enough to give a reliable average without being unduly influenced by very good and very poor short-term returns. When calculated using a long data series, the historical equity risk premium is relatively stable.[4] Furthermore, because an average of the realized equity risk premium is quite volatile when calculated using a short history, using a long series makes it less likely that the analyst can justify any number he or she wants. The magnitude of how shorter periods can affect the result will be explored later in this chapter.
>
> Some analysts estimate the expected equity risk premium using a shorter, more recent time period on the basis that recent events are more likely to be repeated in the near future; furthermore, they believe that the 1920s, 1930s and 1940s contain too many unusual events. This view is suspect because all periods contain "unusual" events. Some of the most unusual events this century took place quite recently, including the inflation of the late 1970s and early 1980s, the October 1987 stock market crash, the collapse of the high-yield bond market, the major contraction and consolidation of

[21] Ibbotson Associates, Stocks, Bonds, Bills and Inflation – Valuation Edition 2002 Yearbook, pp. 76-77.

> the thrift industry, the collapse of the Soviet Union, and the development of the European Economic Community – all of these happened in the last 20 years.
>
> It is even difficult for economists to predict the economic environment of the future. For example, if one were analyzing the stock market in 1987 before the crash, it would be statistically improbable to predict the impending short-term volatility without considering the stock market crash and market volatility of the 1929-1931 period.
>
> Without an appreciation of the 1920s and 1930s, no one would believe that such events could happen. The 77-year period starting with 1926 is representative of what can happen: it includes high and low returns, volatile and quiet markets, war and peace, inflation and deflation, and prosperity and depression. Restricting attention to a shorter historical period underestimates the amount of change that could occur in a long future period. Finally, because historical event-types (not specific events) tend to repeat themselves, long-run capital market return studies can reveal a great deal about the future. Investors probably expect "unusual" events to occur from time to time, and their return expectations reflect this. (footnote omitted)

In addition, the use of long-term data in a RPM model is consistent with the long-term investment horizon presumed by the DCF model. Consequently, the long-term arithmetic mean total return rates on the market as a whole of 12.2% and on corporate bonds of 6.2% were used, as shown at Line Nos. 1 and 2 of page 6 of Exhibit No. 3 , Schedule 13. As shown on Line No. 3 of page 6, the resultant long-term historical equity risk premium on the market as a whole is 6.0%.

I used arithmetic mean return rates because they are appropriate for cost of capital purposes. As Ibbotson Associates state in their Valuation Edition 2002 Yearbook[22]:

> The equity risk premium data presented in this book are arithmetic average risk premia as opposed to geometric average risk premia. The arithmetic average equity risk premium can be demonstrated to be most appropriate when discounting future cash flows. For use as the expected equity risk premium in either the CAPM or the building

[22] Id., p. 71.

block approach, the arithmetic mean or the simple difference of the arithmetic means of stock market returns and riskless rates is the relevant number. This is because both the CAPM and the building block approach are additive models, in which the cost of capital is the sum of its parts. The geometric average is more appropriate for reporting past performance, since it represents the compound average return.

The argument for using the arithmetic average is quite straightforward. In looking at projected cash flows, the equity risk premium that should be employed is the equity risk premium that is expected to actually be incurred over the future time periods. Graph 5-3 shows the realized equity risk premium for each year based on the returns of the S&P 500 and the income return on long-term government bonds. (The actual, observed difference between the return on the stock market and the riskless rate is known as the realized equity risk premium.) There is considerable volatility in the year-by-year statistics. At times the realized equity risk premium is even negative.

As Ibbotson Associates[23] states in their 1999 Yearbook:

> The expected equity risk premium should always be calculated using the arithmetic mean. The arithmetic mean is the rate of return which, when compounded over multiple periods, gives the mean of the probability distribution of ending wealth values....Stated another way, the arithmetic mean is correct because an investment with uncertain returns will have a higher expected ending wealth value than an investment which earns, with certainty, its compound or geometric rate of return every year....*Therefore, in the investment markets, where returns are described by a probability distribution, the arithmetic mean is the measure that accounts for uncertainty, and is the appropriate one for estimating discount rates and the cost of capital.* (italics added)

Ex-post (historical) total returns and equity risk premium spreads differ in size and direction over time. This is precisely why the arithmetic mean is important as it provides insight into the variance and standard deviation of returns. This prospect for variance, as captured in the arithmetic mean, provides the valuable

[23] Ibbotson Associates, Stocks, Bonds, Bills and Inflation - 1999 Yearbook, pp. 157-158.

insight needed by investors to estimate future risk when making a current investment. Absent such valuable insight into the potential variance of returns, investors cannot meaningfully evaluate prospective risk. As discussed previously, all of the cost of common equity models, including the DCF, are premised upon the EMH, that all publicly available information is reflected in the market prices paid. If investors relied upon the geometric mean of ex-post spreads, they would have no insight into the potential variance of future returns because the geometric mean relates the change over many periods to a constant rate of change, thereby obviating the year-to-year fluctuations, or variance, *critical to risk analysis.*

The basis of the forecasted market equity risk premium can be found on Line Nos. 4 through 6 on page 6 of Exhibit No. 3 , Schedule 13. It is derived from an average of the most recent 12-month, 6-month, 3-month (using the months of May 2002 through April 2003) and a recent spot (May 2, 2003) median market price appreciation potentials by Value Line as explained in detail in Note 1 on page 4 of Exhibit No. 3 , Schedule 14. The average expected price appreciation is 84% which translates to 16.47% per annum and, when added to the average (similarly calculated) dividend yield of 2.15% equates to a forecasted annual total return rate on the market as a whole of 18.62%, rounded to 18.6%. Thus, this methodology is consistent with the use of the 12-month, 6-month, 3-month and spot dividend yields in my application of the DCF model. To derive the forecasted total market equity risk premium of 12.3% shown on Exhibit No. 3, Schedule 13, page 6, Line No. 6, the May 1, 2003 forecast of about 50 economists of the expected yield on Moody's Aaa rated corporate bonds for the six calendar quarters ending with the third calendar quarter 2004 of 6.3% from Blue Chip Financial Forecasts was deducted from the Value Line total market return of 18.6. The calculation resulted in an expected market risk premium of 12.3%.

The average of the historical and projected market equity risk premiums of

6.0% and 12.3% is 9.15%, rounded to 9.2%.

On page 9 of Exhibit No. 3 , Schedule 13, the most current Value Line (Standard Edition) betas for the companies in each proxy group are shown. Applying the average betas of the proxy group of seven C.A. Turner water companies and the proxy group of thirteen utilities selected on the basis of least relative distance to the average market equity risk premium of 9.2% results on a beta adjusted equity risk premium of 5.8% for the proxy group of seven water companies and of 6.4% for the proxy group of thirteen utilities as shown on Exhibit No. 3 , Schedule 13, page 6, Line No. 9.

A mean equity risk premium of 4.5% applicable to companies with A rated public utility bonds was calculated based upon holding period returns from a study using public utilities, as shown on Line No. 2, page 5 of Exhibit No. 3 , Schedule 13, and detailed on page 8 of the same schedule.

The equity risk premiums applicable to the proxy group of seven C.A. Turner water companies and to the proxy group of thirteen utilities selected on the basis of least relative distance is the average of the beta-derived premiums and that based upon the holding period returns of public utilities with A rated bonds, as summarized on Exhibit No. 3 , Schedule 13, page 5, i.e., 5.2% and 5.5%.

Q. What is the RPM calculated common equity cost rates?

A. They are 12.4% for the seven C.A. Turner water companies and 12.7% for the thirteen utilities as shown on Exhibit No. 3 , Schedule 13, page 1.

Q. Some critics of the RPM model claim that its weakness is that it presumes a constant equity risk premium. Is such a claim valid?

A. No. The equity risk premium varies inversely with interest rate changes, although not in tandem with those changes. This presumption of a constant equity risk premium is no different than the presumption of a constant "g", or growth component, in the DCF model. If one calculates a DCF cost rate today, the absolute result "k", as well as the growth component "g", would invariably differ from a calculation made just one or several months earlier. This implies that the "g" does change, although in the application of the standard DCF model, the "g" is presumed to be constant. Hence, there is no difference between the RPM and DCF models in that both models assume a constant component, but in reality, these components, the "g" and the equity risk premium both change.

As Morin[24] states with respect to the DCF model:

> It is not necessary that *g* be constant year after year to make the model valid. *The growth rate may vary randomly around some average expected value. Random variations around trend are perfectly acceptable, as long as the mean expected growth is constant*. The growth rate must be 'expectationally constant' to use formal statistical jargon. (italics added)

The foregoing confirms that the RPM is similar to the DCF model. Both assume an "expectationally constant" risk premium and growth rate, respectively, but in reality both vary (change) randomly around an arithmetic mean. Consequently, the use of the arithmetic mean, and not the geometric mean is confirmed as appropriate in the determination of an equity risk premium as discussed previously.

D. The Capital Asset Pricing Model (CAPM)

1. Theoretical Basis

Q. Please explain the theoretical basis of the CAPM.

[24] Id., p. 111.

A. CAPM theory defines risk as the covariability of a security's returns with the market's returns. This covariability is measured by beta ("ß"), an index measure of an individual security's variability relative to the market. A beta less than 1.0 indicates lower variability while a beta greater than 1.0 indicates greater variability than the market.

The CAPM assumes that all other risk, i.e., all non-market or unsystematic risk, can be eliminated through diversification. The risk that cannot be eliminated through diversification is called market, or systematic, risk. The CAPM presumes that investors require compensation for risks that cannot be eliminated through diversification. Systematic risks are caused by macroeconomic and other events that affect the returns on all assets. Essentially, the model is applied by adding a risk-free rate of return to a market risk premium. This market risk premium is adjusted proportionately to reflect the systematic risk of the individual security relative to the market as measured by beta. The traditional CAPM model is expressed as:

$$R_s = R_f + ß(R_m - R_f)$$

Where:

R_s	=	Return rate on the common stock
R_f	=	Risk-free rate of return
R_m	=	Return rate on the market as a whole
ß	=	Adjusted beta (volatility of the security relative to the market as a whole)

Numerous tests of the CAPM have confirmed its validity. These tests have measured the extent to which security returns and betas are related as predicted by the CAPM. However, Morin observes that while the results support the notion that beta is related to security returns, it has been determined that the empirical Security

Market Line (SML) described by the CAPM is not as steeply sloped as the predicted SML. Morin[25] states:

> With few exceptions, the empirical studies agree that the implied intercept term exceeds the risk-free rate and the slope term is less than predicted by the CAPM. That is, low-beta securities earn returns somewhat higher than the CAPM would predict, and high-beta securities earn less than predicted.
>
> * * *
>
> Therefore, the empirical evidence suggests that the expected return on a security is related to its risk by the following approximation:
>
> $$K = R_F + x\,ß(R_M - R_F) + (1-x)\,ß(R_M - R_F)$$
>
> where x is a fraction to be determined empirically. ...the value of x that best explains the observed relationship is between 0.25 and 0.30. If x = 0.25, the equation becomes:
>
> $$K = R_F + 0.25(R_M - R_F) + 0.75\,ß(R_M - R_F)$$[26]

In view of theory and practical research, I have applied both the traditional CAPM and the empirical CAPM to the companies in each proxy group and averaged the results.

2. Risk-Free Rate of Return

Q. Please describe your selection of a risk-free rate of return.

A. My applications of the traditional and empirical CAPM are summarized on Exhibit No. 3 , Schedule 14, page 1. As shown on Line Nos. 1 and 4, the risk-free rate adopted for both applications is 5.4%. It is based upon the average consensus

[25] Id., at p. 321.

[26] Id., at pp. 335-336.

forecast of the reporting economists in the May 1, 2003 of Blue Chip Financial Forecasts as shown in Note 2, page 4, of the expected yields on long-term U.S. Treasury bonds for the six quarters ending with the third calendar quarter 2004.

Q. Why is the prospective yield on long-term U.S. Treasury Bonds appropriate for use as the risk-free rate?

A. The yield on long-term T-Bonds is almost risk-free and its term is consistent with the long-term cost of capital to public utilities measured by the yields on A rated public utility bonds, and is consistent with the long-term investment horizon inherent in utilities' common stocks. Therefore, it is consistent with the long-term investment horizon presumed in the standard DCF model employed in regulatory ratemaking. Moreover, Morin[27] states:

> Equity investors generally have an investment horizon far in excess of fifty days. More importantly, the short-term T-bill yields reflect the impact of factors different from those influencing long-term securities, such as common stock. For example, the premium for expected inflation absorbed into 90-day Treasury bills is likely to be far different than the inflationary premium absorbed into long-term securities yields. The yields on long-term Treasury bonds match more closely with common stock returns. *For investors with a long time horizon, a long-term government bond is almost risk-free.* (italics added)

As to the use of the highly volatile Treasury Bill rate, Morin cites Brigham and Gapenski who conclude[28]:

> Treasury bill rates are subject to more random disturbances than are Treasury bond rates. For example, bills are used by the Federal

[27] Id., at p. 308.

[28] Id., at p. 308.

> Reserve System to control the money supply, and bills are also used by foreign governments, firms, and individuals as a temporary safe-house for money. Thus, if the Fed decides to stimulate the economy, it drives down the bill rate and the same thing happens if trouble erupts somewhere in the world and money flows into the United States seeking a temporary haven.

In addition, Ibbotson Associates note in their Valuation Edition 2003 Yearbook[29]

> The horizon of the chosen Treasury security should match the horizon of whatever is being valued. When valuing a business that is being treated as a going concern, the appropriate Treasury yield should be that of a long-term Treasury bond. Note that the horizon is a function of the investment, not the investor.

In conclusion, the average expected yield on long-term Treasury Bonds is the appropriate proxy for the risk-free rate in the CAPM because it is less volatile than yields on Treasury Bills, is almost risk-free as noted by Morin above and is consistent with the long-term investment horizon implicit in common stocks.

3. Market Equity Risk Premium

Q. Please explain the estimation of the expected equity risk premium for the market.

A. First, I estimate investors' expected total return rate for the market. Then I estimate the expected risk-free rate which I subtract from the expected total return rate for the market. The result is an expected equity risk premium for the market, some proportion of which must be allocated to the companies in each proxy group through the use of beta. As a measure of risk relative to the market as a whole, the beta is an appropriate means by which to apportion the market risk premium to a specific

[29] Id., p. 53.

company or group.

As shown on Exhibit No. 3 , Schedule 14, page 1, Line No. 2, the proportional market equity risk premium, based on the traditional CAPM, is 6.4% for the proxy group of seven C.A. Turner water companies and 7.1% for the proxy group of thirteen utilities selected on the basis of least relative distance. Applying the empirical CAPM results in an equity risk premium of 7.3% for the seven C.A. Turner water companies and 7.8% for the thirteen utilities as shown on Line No. 5 on page 1 of Schedule 14. The total market equity risk premium utilized was 10.1% and is based upon an average of the long-term historical and projected market risk premiums.

The basis of the projected median market equity risk premium is explained in detail in Note 1 on page 4 of Exhibit No. 3 , Schedule 14. As previously discussed, it is derived from an average of the most recent 12-month, 6-month, 3-month (using the months of May 2002 through April 2003) and a recent spot (May 2, 2003) 3 - 5 year median total market price appreciation projections from Value Line and the long-term historical average from Ibbotson Associates. The appreciation projections by Value Line plus average dividend yield equate to a forecasted annual total return rate on the market of 18.6%. The long-term historical return rate of 12.2% on the market as a whole is from Ibbotson Associates' Stocks, Bonds, Bills and Inflation - Valuation Edition 2003 Yearbook. In each instance, the relevant risk-free rate was deducted from the total market return rate. For example, from the Value Line projected total market return of 18.6%, the forecasted average risk-free rate of 5.4% was deducted indicating a forecasted market risk premium of 13.2%. From the Ibbotson Associates' long-term historical total return rate of 12.2%, the long-term historical income return rate on long-term U.S. Government Securities of 5.2% was deducted indicating an historical equity risk premium of 7.0%. Thus, the average of the projected and historical total market risk premiums of 13.2% and 7.0%,

respectively, is 10.1%.

Q What is the result of your applications of the traditional and empirical CAPM to the two proxy groups?

A. As shown on Exhibit No. 3 , Schedule 14, Line No. 3 of page 1, the traditional CAPM cost rate is 11.8% for the proxy group of seven C.A. Turner water companies and 12.5% for the proxy group of thirteen utilities. And, as shown on Line No. 6 of page 1, the empirical CAPM cost rate is 12.7% for the seven C.A. Turner water companies and 13.2% for the thirteen utilities. The traditional and empirical CAPM cost rates are shown individually by company on pages 2 and 3 of Exhibit No. 3 , Schedule 14. As shown on Line No. 7, the CAPM cost rate applicable to the proxy group of seven C.A. Turner water companies is 12.3% and 12.9% applicable to the proxy group of thirteen utilities based upon the traditional and empirical CAPM results.

E. Comparable Earnings Model (CEM)

1. Theoretical Basis

Q. Please describe your application of the Comparable Earnings Model and how it is used to determine common equity cost rate.

A. My application of the CEM is summarized in Exhibit No. 3 , Schedule 15 which consists of six pages. Pages 1 and 2 show the CEM results for the proxy group of seven C.A. Turner water companies, while pages 3 and 4 show the CEM results for the proxy group of thirteen utilities selected on the basis of least relative distance. Pages 5 and 6 contain the notes related to pages 1 through 4.

The comparable earnings approach is derived from the "corresponding risk"

standard of the landmark cases of the U.S. Supreme Court. Therefore, it is consistent with the Hope doctrine that the return to the equity investor should be commensurate with returns on investments in other firms having corresponding risks.

The CEM is based upon the fundamental economic concept of opportunity cost which maintains that the true cost of an investment is equal to the cost of the best available alternative use of the funds to be invested. The opportunity cost principle is also consistent with one of the fundamental principles upon which regulation rests: that regulation is intended to act as a surrogate for competition and to provide a fair rate of return to investors.

The CEM is designed to measure the returns expected to be earned on the book common equity, in this case net worth, of similar risk enterprises. Thus, it provides a direct measure of return, since it translates into practice the competitive principle upon which regulation rests. In my opinion, it is inappropriate to use the achieved returns of regulated utilities of similar risk because to do so would be circular and inconsistent with the principle of equality of risk with non-price regulated firms.

The difficulty in application of the CEM is to select a proxy group or groups of companies which are similar in risk, but are not price regulated utilities. Consequently, the first step in determining a cost of common equity using the comparable earnings model is to choose an appropriate proxy group of non-price regulated firms. The proxy group or groups should be broad-based in order to obviate any company-specific aberrations. As stated previously, utilities need to be eliminated to avoid circularity since the returns on book common equity of utilities are substantially influenced by regulatory awards and are therefore not representative of the returns that could be earned in a truly competitive market.

2. Application of the CEM

Q. Please describe your application of the CEM.

A. My application of the CEM is market-based in that the selection of non-price regulated firms of comparable risk is based upon statistics derived from the market prices paid by investors.

I have chosen two proxy groups of domestic, non-price regulated firms to reflect both the systematic and unsystematic risks of the proxy group of seven C.A. Turner water companies and the proxy group selected on the basis of least relative distance, respectively. The proxy group of ninety-six non-utility companies similar in risk to the proxy group of seven C.A. Turner water companies and the proxy group of seventy-five non-utility companies similar in risk to the proxy group of thirteen utilities selected on the basis of least relative distance are listed on pages 1 through 4 of Exhibit No. 3 , Schedule 15. The criteria used in the selection of these proxy companies were that they be domestic non-utility companies and have a meaningful rate of return on net worth, common equity or partners' capital reported in Value Line (Standard Edition) for each of the five years ended 2002, or projected for 2005-2007/2006-2008. Value Line betas were used as a measure of systematic risk. The residual standard error, or the standard error of the estimate from the regression equation from which each company's beta was derived, was used as a measure of each firm's specific, i.e., unsystematic risk. The residual standard error reflects the extent to which events specific to a company's operations will affect its stock price and, therefore, is a measure of diversifiable, unsystematic, company-specific risk. *In essence, companies which have similar betas and residual standard errors, have similar investment risk, i.e., the sum of systematic (market) risk as reflected by beta and unsystematic (business and financial) risk, as reflected by the residual standard error, respectively. Those statistics are derived from regression analyses using market prices which, under the EMH reflect all relevant risks. The*

application of these criteria results in a proxy group of non-price regulated firms similar in risk to the average company in the proxy group.

The proxy group of ninety-six non-price regulated companies were chosen based upon ranges of unadjusted beta and residual standard error. The ranges were based upon the average standard deviations of the unadjusted beta and the average residual standard error for the proxy group of seven C.A. Turner water companies.

The seven C.A. Turner water companies in the proxy group have an average unadjusted beta of 0.43 whose standard deviation is 0.1044 as of March 14, 2003, as shown on page 2 of Exhibit No. 3 , Schedule 15. The average residual standard error from the regression equations which derived the proxy group's average unadjusted beta is 4.2528 as also shown on Schedule 15, page 2 with a standard deviation of 0.1869 as derived in Note 5, page 3 of Exhibit No. 3 , Schedule 15. Ranges of unadjusted betas from 0.12 to 0.74 and of residual standard errors from 3.6921 to 4.8135 were used to select the proxy group of ninety-six domestic non-utility companies comparable to the profile of the proxy group of seven C.A. Turner water companies as can be gleaned from pages 1 and 2 and explained in Note 1 on page 5 of Schedule 15. These ranges are based upon the proxy group's average unadjusted beta of 0.43 and average residual standard error of 4.2528 plus or minus three standard deviations of beta (0.1044 x 3 = 0.3132) and residual standard errors (0.1869 x 3 = 0.5607). The use of three standard deviations assures capturing 99.73% of the distribution of unadjusted betas and standard errors, assuring comparability.

The proxy group of seventy-five non-price regulated companies were chosen based upon ranges of unadjusted beta and residual standard error. The ranges were based upon the average standard deviations of the unadjusted beta and the average residual standard error for the proxy group of thirteen utilities selected on

the basis of least relative distance.

The thirteen utilities in the proxy group have an average unadjusted beta of 0.51 whose standard deviation is 0.0934 as of March 14, 2003, as shown on page 4 of Exhibit No. 3 , Schedule 15. The average residual standard error from the regression equations which derived the proxy group's average unadjusted beta is 3.8036 as also shown on Schedule 15, page 4 with a standard deviation of 0.1671 as derived in Note 10, page 6 of Exhibit No. 3 , Schedule 15. Ranges of unadjusted betas from 0.23 to 0.79 and of residual standard errors from 3.3023 to 4.3049 were used to select the proxy group of seventy-five domestic non-utility companies comparable to the profile of the proxy group of thirteen utilities selected on the basis of least relative distance as can be gleaned from pages 3 and 4 and explained in Note 9 on pages 5 and 6 of Schedule 15. These ranges are based upon the proxy group's average unadjusted beta of 0.51 and average residual standard error of 3.8036 plus or minus three standard deviations of beta (0.0934 x 3 = 0.2802) and residual standard errors (0.1671 x 3 = 0.5013). The use of three standard deviations assures capturing 99.73% of the distribution of unadjusted betas and standard errors, assuring comparability.

I believe that this methodology for selecting non-price regulated firms of similar total risk (i.e., non-diversifiable systematic and diversifiable non-systematic risk) is meaningful and effectively responds to the criticisms normally associated with the selection of firms presumed to be comparable in total risk. This is because the selection of non-price regulated companies comparable in total risk is based upon regression analyses of market prices which reflect investors' assessment of all risks, diversifiable and non-diversifiable. Thus, the empirical selection process results in companies comparable in both systematic and unsystematic risks, i.e., total risk.

Once proxy groups of non-price regulated companies is selected, it is then

necessary to derive returns on book common equity, net worth or partners' capital for the companies in the group. I have measured these returns using the rate of return on net worth, common equity or partners' capital reported by Value Line (Standard Edition). It is reasonable to measure these returns over both the most recent historical five-year period as well as those projected over the ensuing five-year period.

Q. What are your conclusions of CEM cost rate?

A. Conclusions of CEM cost rates are 15.0% for the proxy group of seven C.A. Turner water companies as shown on page 2 of Schedule 15 of Exhibit No. 3 and 16.3% for the proxy group of thirteen utilities selected on the basis of least relative distance as shown on page 4. Note that I have applied a test of significance (Student's t-statistic) to determine whether any of the historical or projected returns are significantly different from their respective means at the 95% confidence level. As a result, the historical and the projected means of several companies have been excluded.

I have also decided to eliminate from both the groups of ninety-six and seventy-five non-price regulated companies, all those rates of return which are greater than 20.0% or less than the prospective yield of 7.2% on Moody's A rated public utility bonds (see page 1 of Schedule 13 of Exhibit No. 3). Such elimination results in an arithmetic mean return rate of 13.6% on an historical five-year and 13.5% on a projected five-year basis for the seven C.A. Turner water companies and 13.1% on an historical five-year basis and 13.4% on a projected five-year basis for the thirteen utilities as shown on pages 2 and 4 of Schedule 15, respectively. I rely upon the midpoint of the arithmetic mean historical five-year and projected five-year rates of return of 13.6% and 13.3% as my CEM conclusions for each proxy

group, respectively.

IX. CONCLUSION OF COMMON EQUITY COST RATE

Q. What is your recommended common equity cost rate?

A. Although the Company's filing is based upon a requested common equity cost rate of 10.75%, my recommended common equity cost rate is 12.50% based upon common equity cost rates resulting from all four cost of common equity models consistent with the EMH which logically mandates the use of multiple cost of common equity models. In formulating my recommended common equity cost rate of 12.50%, I reviewed the results of the application of four different cost of common equity models, namely, the DCF, RPM, the CAPM, and CEM for the two proxy groups. I employ all four cost of common equity models as primary tools in arriving at my recommended common equity cost rate because no single model is so inherently precise that it can be relied upon solely, to the exclusion of other theoretically sound models. As discussed above, all four models are based upon the Efficient Market Hypothesis (EMH), and therefore, have application problems associated with them. The EMH, as also previously discussed, requires the assumption that investors rely upon multiple cost of common equity models. Moreover, as demonstrated in this testimony, the prudence of using multiple cost of common equity models is supported in the financial literature. Therefore, none should be relied upon exclusively to estimate investors' required rate of return on common equity.

In a market environment where market value deviates significantly from book value (lower or higher), sole reliance on the DCF model is problematic for a regulated utility because its application results in an overstatement or understatement, respectively, of investors' required rate of return. Investors expect to

achieve their required rate of return based upon dividends received and appreciation in market price. This testimony has shown that market prices are significantly influenced by factors other than earnings per share (EPS) and dividends per share (DPS). Thus, because it is necessary to use accounting proxies for growth in the DCF model, such as EPS, DPS, or their derivative, internal growth, which do not reflect the full extent of market price growth expected by investors. Market prices reflect other factors affecting growth not accounted for in the standard regulatory version of the DCF model such as an increase in the market value per share due to expected increases in price/earnings multiples and less obvious factors included in the long-range goals of investors. For these reasons, sole reliance on the DCF model should be avoided. In fact, state commissions in Iowa, Indiana, Hawaii and Pennsylvania as discussed in detail above, which have previously relied primarily upon the DCF, have explicitly recognized this tendency of the DCF model to understate the common equity cost rate when, as now, market prices significantly exceed book values.

The results of the four cost of common equity models applied to the proxy group of seven C.A. Turner water companies and proxy group of thirteen utilities selected on the basis of least relative distance is shown on Exhibit No. 3, Schedule 1, page 2 and summarized below:

Table 4

	Proxy Group of Seven C.A. Turner Water Cos.	Proxy Group of Thirteen Utilities Selected on the Basis of Least Relative Distance
Discounted Cash Flow Model	10.1%	10.6%
Risk Premium Model	12.4	12.7
Capital Asset Pricing Model	12.3	12.9
Comparable Earnings Model	13.6	13.3

Average	12.1	12.4
Business Risk Adjustment	0.25	0.35
Indicated Common Equity Cost Rate After Adjustment for Business Risk	12.35%	12.75%
Recommended Common Equity Cost Rate	12.50%	

Based upon the common equity cost rate results shown on page 2 of Schedule 1 of Exhibit No. 3 and in Table 4 above, I conclude that a common equity cost rate of 12.1% is indicated for the proxy group of seven C.A. Turner water companies and of 12.4% for the proxy group of thirteen utilities selected on the basis of least relative distance based upon the use of multiple common equity cost rate models and before any adjustment for Consumers IL's greater relative business risk, as shown on Line No. 5, page 3 of Schedule 1 of Exhibit No. 3. These cost rates are applicable to the much larger, less business risky, proxy groups of seven C.A. Turner water companies and thirteen utilities.

However, as discussed previously, Consumers IL is more business risky than the average proxy group company because of its small size vis-à-vis each proxy group. Therefore, it is necessary to upwardly adjust the 12.1% and 12.4% indicated common equity cost rates based upon each proxy group, respectively. Based upon Consumers IL's small relative size, I have added a business risk adjustment of 0.25% (25 basis points) relative to the indicated common equity cost rate of the seven C.A. Turner water companies and 0.35% (35 basis points) relative to the indicated common equity cost rate of the thirteen utilities, which is conservatively realistic. The adjustment is based upon data contained in Chapter 7 entitled, "Firm Size and Return" from Ibbotson Associates' Stocks, Bonds, Bills and Inflation-Valuation Edition 2003 Yearbook. The determinations are based on the size premiums for decile portfolios of New York Stock Exchange (NYSE), American

Stock Exchange (AMEX) and NASDAQ listed companies for the 1926-2002 period and related data shown on pages 3 through 18 of Schedule 1 of Exhibit No. 3. The average size premiums for the deciles in which the proxy groups fall have been compared to the average size premium for the 9th and 10th deciles between which Consumers IL falls, if its stock were traded and sold at the April 30, 2003 average market/book ratio of either 220.1% or 222.8% experienced by the proxy group of seven C.A. Turner water companies and the proxy group of thirteen utilities selected on the basis of least relative distance, respectively. As shown on page 3 of Schedule 1 of Exhibit No. 3, the size premium spread between the seven C.A. Turner water companies and Consumers IL is 2.41% and 3.46% between the thirteen utilities and Consumers IL. Thus, 0.25% and 0.35% are conservatively reasonable estimates of the magnitude of the adjustment needed to reflect the business risk differential between Consumers IL and each proxy group, respectively. Page 4 contains notes relative to page 3. Page 5 contains data in support of page 3 while pages 6 through 18 of Schedule 1 contain relevant information from the Ibbotson Associates' Valuation Edition 2003 Yearbook discussed previously.

Consequently, as shown on page 2 of Schedule 1 of Exhibit No. 3 at Line No. 7 and Table 4 above, the indicated common equity cost rates based on each proxy group, including the business risk adjustment based upon Consumers IL's greater relative business risk are 12.35% and 12.75%. My recommended common equity cost rate of 12.50% is based upon the midpoint of this range, or 12.55%. In my opinion, such a cost rate is both reasonable and conservative.

X. CHECK ON THE REASONABLENESS OF YOUR RECOMMENDED COMMON EQUITY COST RATE RANGE

Q. How does interest coverage affect the cost rate of common equity capital?

A. Interest coverage is defined as the number of times annual interest on debt has been earned before income taxes. It is the relationship between the income available to pay interest charges and total interest charges. Earnings available for common equity and income taxes provide the margin by which fixed charges are covered more than one time. Investors use coverage as a tool to measure the relative safety of their investment.

Q. What is the implicit opportunity to Consumers IL to earn pretax interest coverage based on an overall cost of capital of 10.135% employing a common equity cost rate of 12.50% relative to 50.43% common equity ratio?

A. My recommendation affords Consumers IL an opportunity to cover interest charges of 3.76 times before income taxes as shown on Schedule 1, page 1 of Exhibit No. 3 . An opportunity for pretax interest coverage of 3.75 times is before the impact of attrition. After the impact of attrition, such an opportunity, in my opinion, would result in an achieved pretax interest coverage lower than 3.75.

Q. Please discuss the Company's opportunity for pretax interest coverage of 3.75 times.

A. Consumers IL's implicit opportunity to earn pretax interest coverage of 3.51 times falls above the upper end of the range of S&P's revised utility financial target pretax interest coverage ratios of 2.8 to 3.4 times (see page 12 of Schedule 2) required of a utility in the A bond rating category and assigned a business position of "3", the average bond rating category and S&P business position of the proxy group. But, as stated previously, the opportunity for pretax interest coverage of 3.75 times is before the impact of attrition which would serve to decrease the actually achieved

pretax interest coverage of Consumers IL below 3.75 times pretax coverage.

In view of the foregoing, then, an opportunity to earn pretax interest coverage of 3.75 times is appropriate and affirms the reasonableness of my recommended common equity cost rate and the conservativeness of the Company's requested common equity cost rate of 10.75%.

Q. Does that conclude your direct testimony?

A. Yes.